# Executive Safety Conference
# Session 2

# Kathy Carlson, Chair

**December 11, 2001**

# Executive Safety Conference
# Session 2

- Introduction of Panel Members
- Overview of Initiative 2
- Summary of Pilots
- Individual Element Briefings
- Wrap-up

# Executive Safety Conference
# Session 2

## Panel Members

- William Madia, Element 1
- Richard Black, Element 2
- Alan Parker, Element 3
- Bruce Tarter, Element 4
- Kathy Carlson, chair and Element 5
- Elaine Merchant, administrative support

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## Overview of Initiative 2

***Tailoring requirements, standards, and authorization bases to changing DOE missions and hazards to facilitate innovative cleanup approaches and operational efficiency, reduce time at risk, and assure protection of our workers.***

***(expanded to include R&D)***


**Champions**

**Kathy Carlson, NNSA/NV**

**Alan Parker, Kaiser-Hill Company**

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## Principles for taking ISM to Next Level

- **Tailor and defend requirements for operations**
- **Assure mature ISM self-assessment process**
- **Validation of self-assessment by renowned experts**
- **Commitment and consistency in application by Senior Leaders**

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## KC Order Reduction Process

- Since 1996, evaluated 180 DOE orders; able to eliminate 140 by using industry standards
- Implemented third party reviews by recognized experts
- Benefits:
  - Reduced field (down 21) and contractor (down 100) FTE requirements
  - $ 2.8 M in cost reduction / avoidance
  - Established a culture of ownership and accountability
- Next Steps:

  Manage "order creep"

  Utilize lessons learned at SNL

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## Fernald Environmental Management Pilot

- Evaluated total set of applicable requirements
- Mutual agreement (HQ/Field/contractor) on deletion of redundant DOE requirement and tailored implementation of others
- Next Steps:

  Promote increased HQ/Field/contractor teaming

  Define "right" set of requirements for future work

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## Sandia National Laboratories

### Self-Governance Model (Non-Nuclear Operations)

- **Will Streamline requirements – laws, statutes, and regulations**
- **Develop and Implement an "assurance & oversight" model**
- **Time Line:**

| | |
|---|---|
| **Initiate Pilot** | **10/15/01** |
| **Complete Pilot** | **4/30/02** |
| **Assess Results** | **10/31/02** |

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## Nevada – Application of Work Smart Standards

- **Work Smart Standards draws on industry standards**
- **Work authorization process focuses on major risks and controls**
- **Next Steps:**

  **Manage "directives creep"**

  **Increase contractor use of recognized experts**

  **Enhance contractor self-assessment program**

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## Proposal: Nevada – Fast Design/Construct

- **Mapping current design/construct process and comparing to commercial processes for low-risk facilities**
- **Will define differences, evaluate risk, and develop risk mitigation techniques**
- **Expected Benefit: *Reduction of cycle time by 45%-60%***
- **Proposal to NNSA on January 15, 2002**

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## Element 1
## ***Eliminating Redundancy of Requirements***

William J. Madia
**Director**
**Oak Ridge National Laboratory**

**December 11–12, 2001**
**Washington, DC**

# DOE Orders overlap significantly with federal and state laws

## DOE ES&H Orders

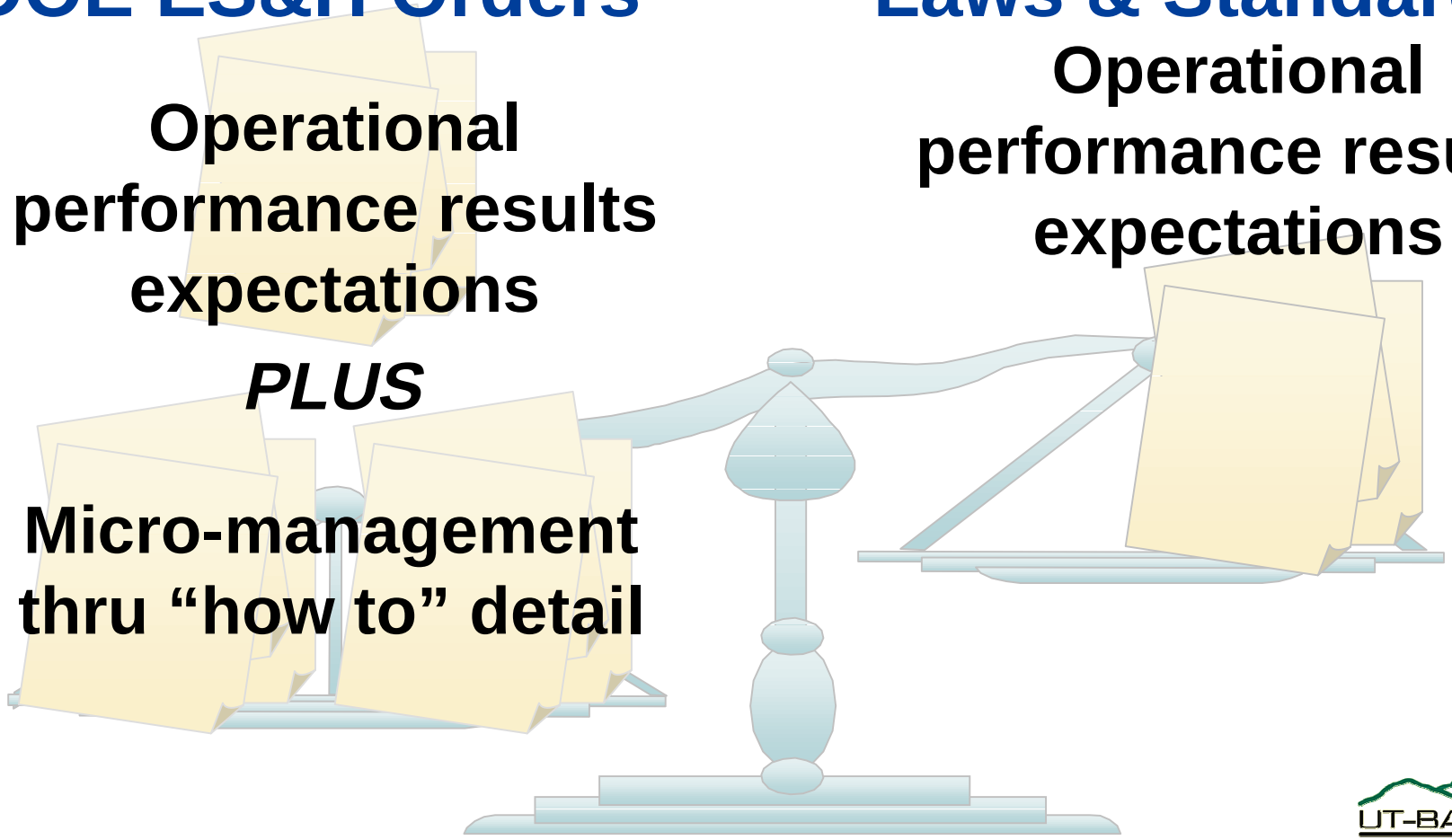
**Operational performance results expectations**

***PLUS***

**Micro-management thru "how to" detail**

## Laws & Standards

**Operational performance results expectations**



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# DOE's approach to requirements management entails significant administrative cost

- Significant DOE resources devoted to maintaining these requirements
- Amplified micro-management (i.e., "how to do it") thru cascading effect by the DOE Field structure


- Multiple and inconsistent interpretations of DOE Orders across DOE sites

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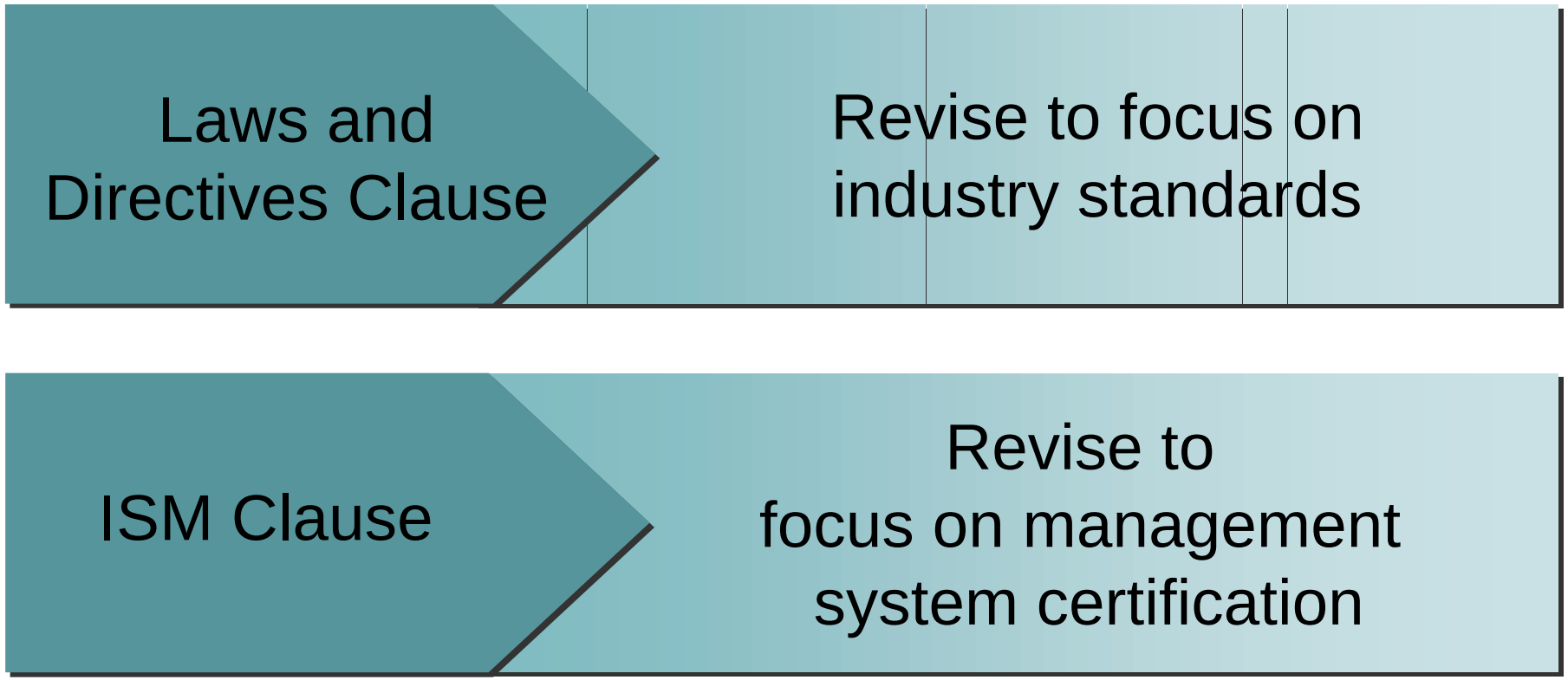
# M&O and M&I contracts can be easily modified to address these issues

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# DOE's line management approach must:

Focus on facilitating contractor achievement of mission objectives

Rely on DOE-IA for oversight of contractor regulatory performance

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# DOE's regulatory oversight approach must focus on monitoring the contractor's:

## Delivery of Regulatory Results

- **Stay the course on Performance-Based Management**
- **Focus on outcome-oriented measures associated with critical areas of performance**

## Responsible Stewardship

- **Adopt a "certification" paradigm for management system oversight**
  - **ISM**
  - **VPP**
  - **ISO 14001**
  - **etc.**
- **Maintain operational awareness**

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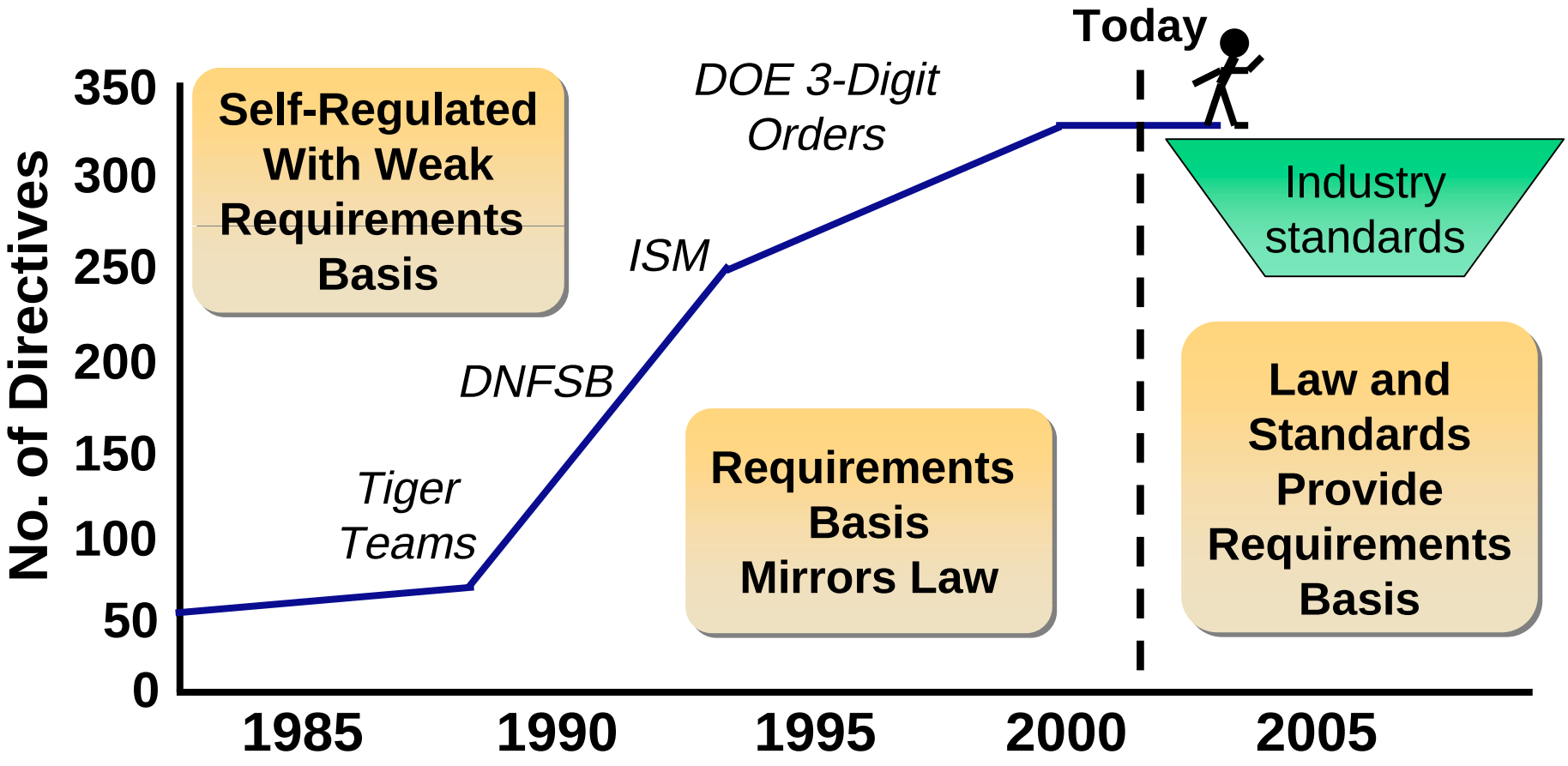
# We can now move to industry standards without diminishing performance

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# Summary of Path Forward

- **Develop Model Contract**
  - DOE Directives Clause
  - ISM Clause
  - Scope of Work
- **Close Regulatory Gaps thru Rulemaking**
  - PAAA
  - Accelerators

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# Summary of Path Forward (cont.)

- **Incorporate Model IA Oversight Program**
  - Focus on strategic lagging indicators
  - Identify relevant management system "certifications"
- **Test These Ideas**
  - Analyze results from Sandia pilot
  - Conduct a pilot at ORNL, covering all facilities and operations (nuclear and non-nuclear)

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# Perspectives on DOE Authorization Basis Process

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## *Corporate Strategies to Further Mission Success*

**Richard Black, Director**

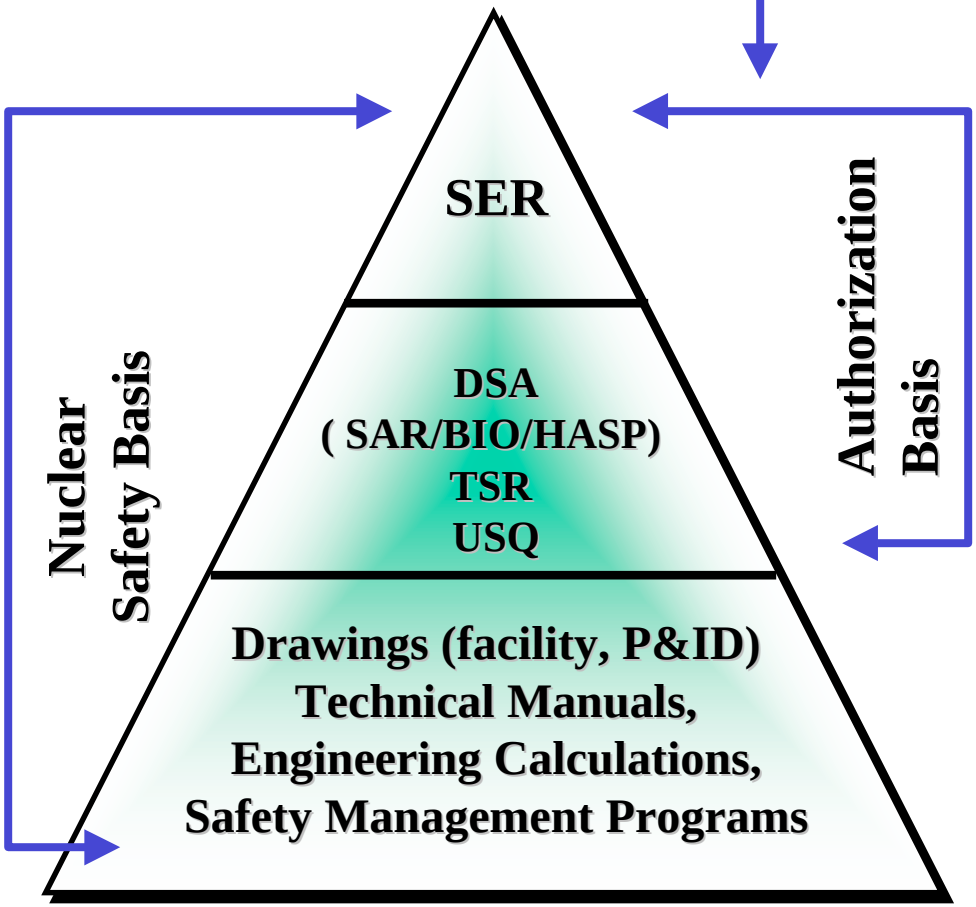
**Office of Nuclear & Facility Safety Policy**

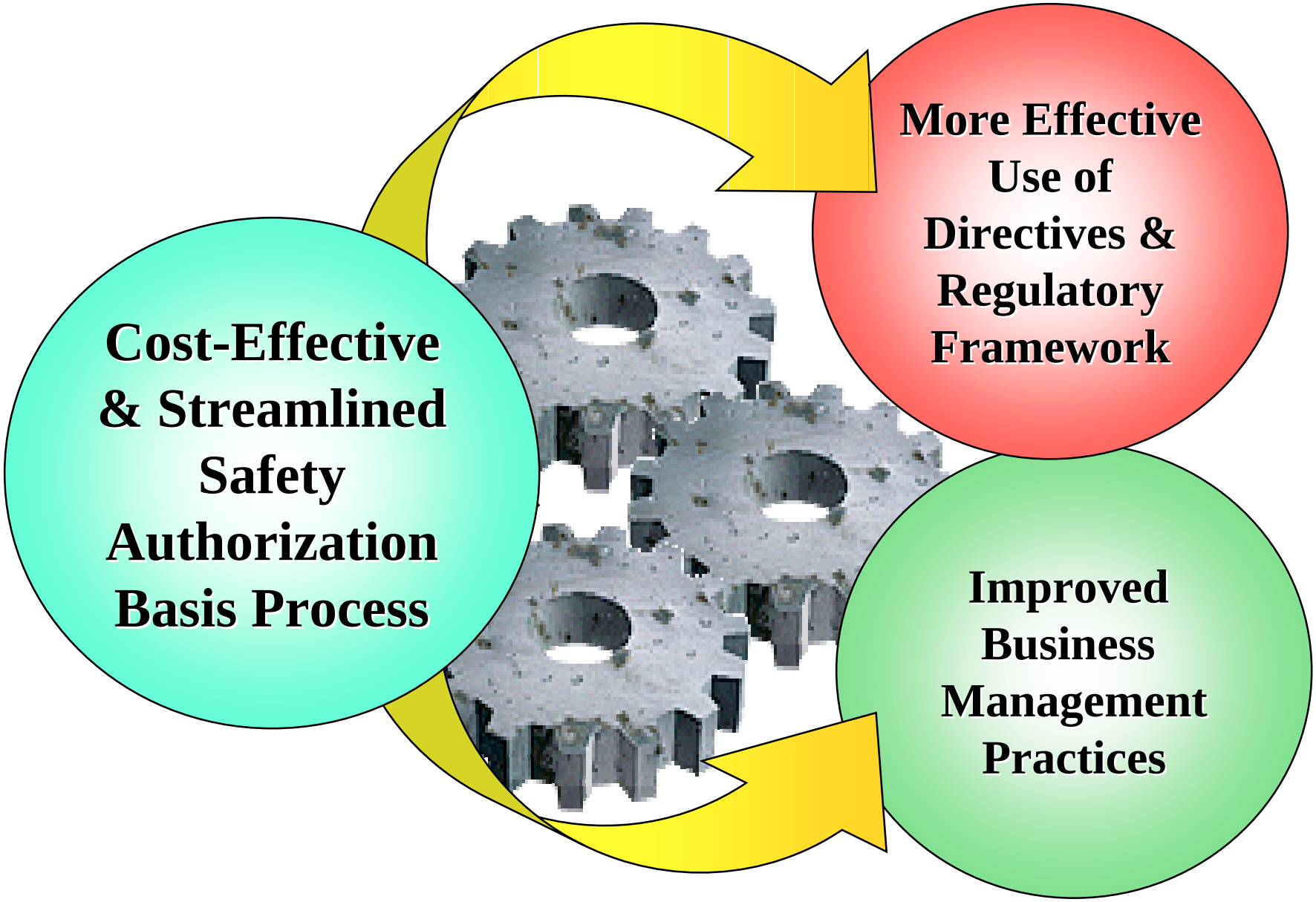
- *Richard.black@eh.doe.gov*
- *(301) 903-3465*

# Generic Depiction of AB Framework (Nuclear)

## Authorization Agreement

- List A and List B Requirements
- Defined Work Scope
- Schedules & Performance Measures
- Contract Terms and Conditions



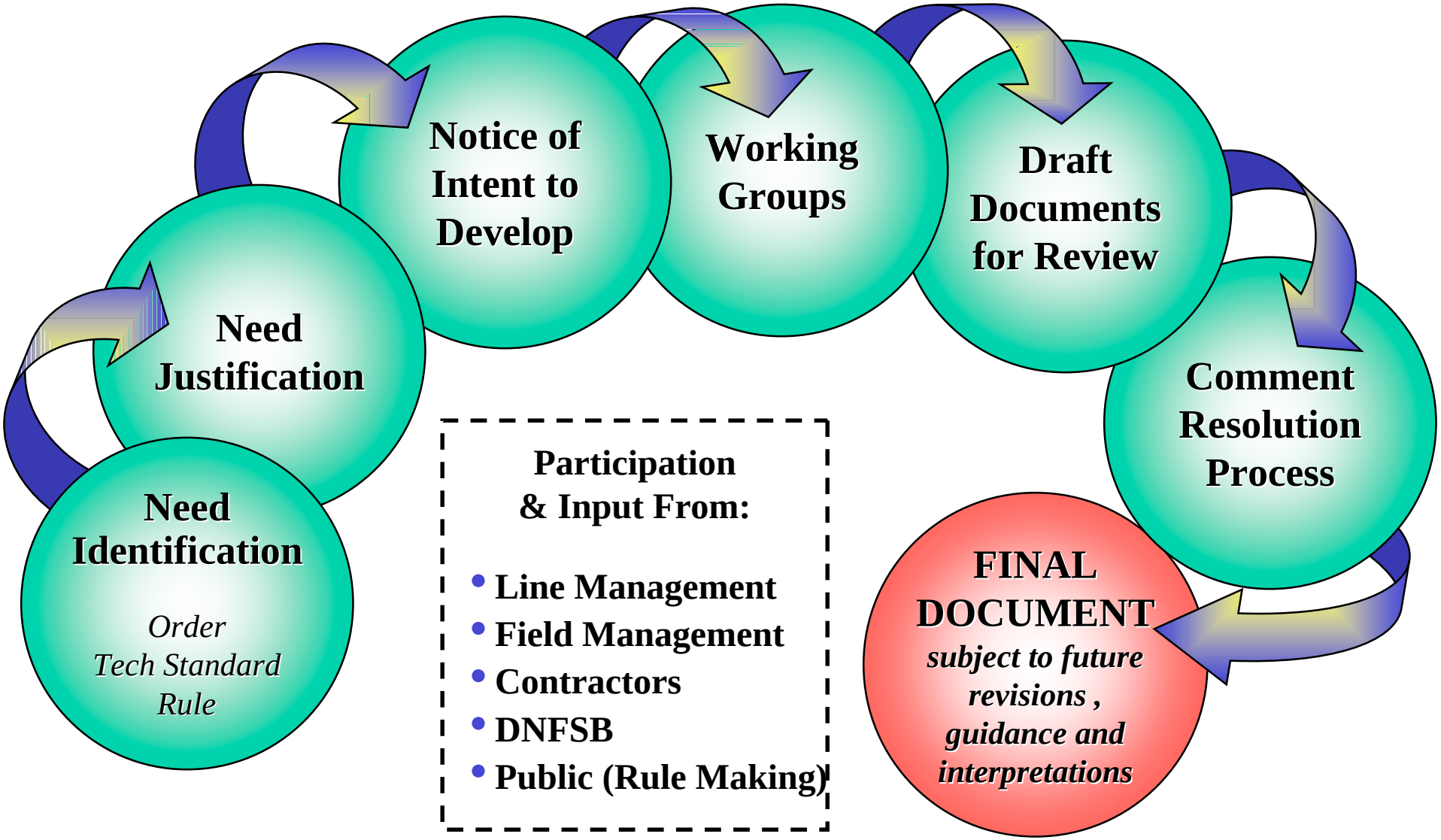



Two-Fold Corporate Strategy

# More Effective Use of Existing Regulatory Framework

## *Influencing Requirements Development Process*

*(Simple Depiction)*

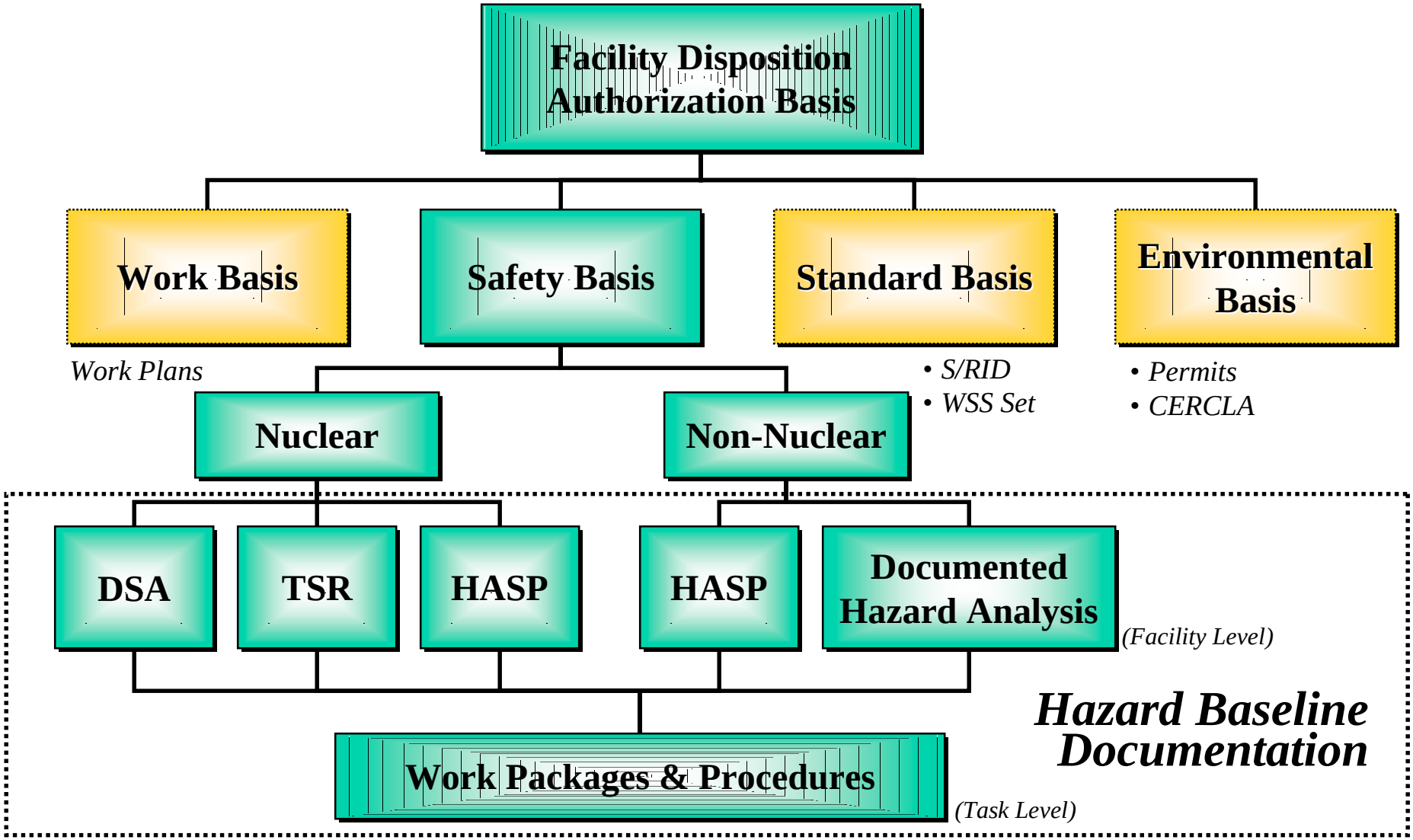


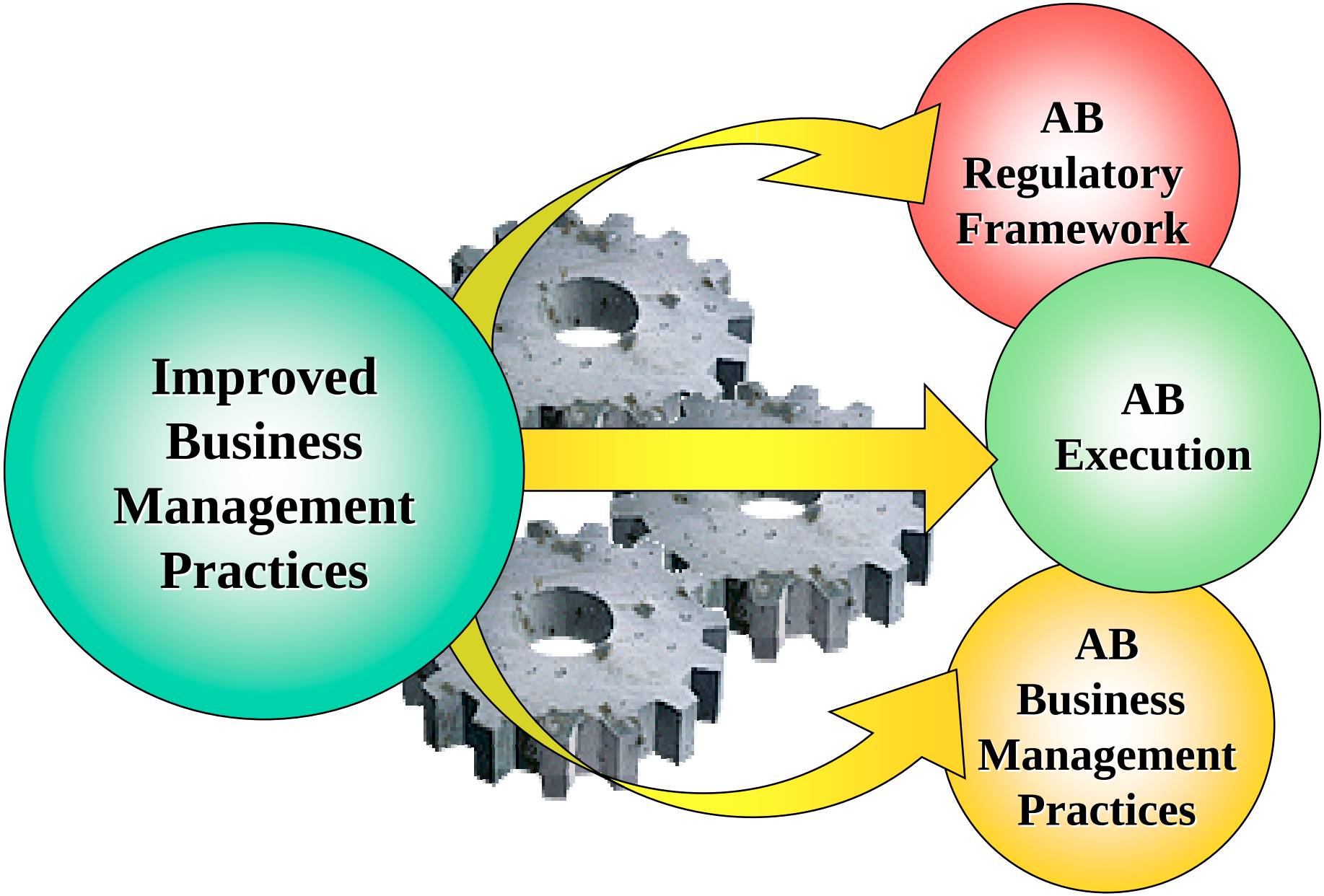
# More Effective Use of Stable Regulatory Framework

*Examples of Inherent Flexibilities*

- **Tailoring of Requirements**
  - **S/RIDs, Work Smart Standards**
  - **Applicability Determination**
- **Safe Harbors (Ten in Part 830)**
  - **BIO for facility deactivation phase**
  - **HASP for decommissioning phase**
  - **TSD for transportation**
- **Regulatory Exemptions**
- **Grading of Implementation Approaches**
  - **Graded DSA for Category 2 & 3 facilities**

# *Case Study:* Modern Interpretation of Authorization Basis (DOE-STD-1120)





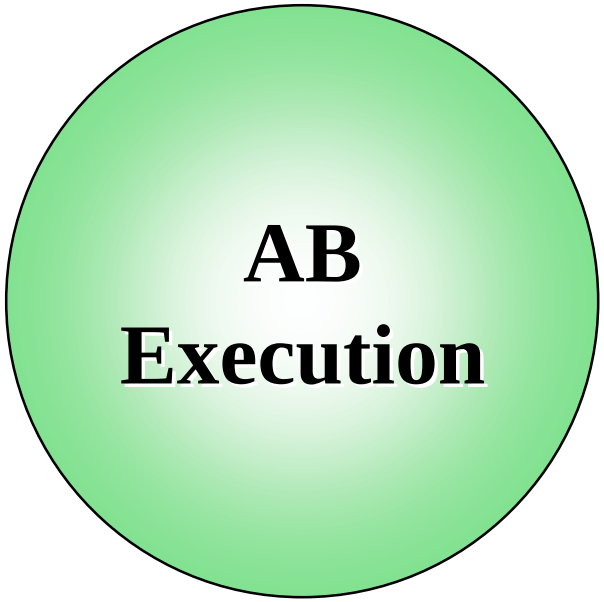

**Coupling and Linkages of AB Business Management Practices, AB Execution & AB Regulatory Framework**

# Potential Opportunities for Improvement

**AB Regulatory Framework**

- **Directives Linked to Facility Mission & Lifecycle**
- **Convergence with Commercial standards**
- **Tailoring of Requirements to Work and Hazards**
- **More Effective Communication of Regulatory Requirements and Intent by DOE--*clearer Directives!***
- **Streamlined DOE Review and Approval Process**
- **Flow-down of Requirements**
- **Change Management Control**

# Potential Opportunities for Improvement




- **Early and Active Engagement of Workers---*hazards identification, Standards, work approaches, interface with subject matter experts, corrective actions, lessons learned***
- **More Effective Identification and Understanding of Risks & Hazards**
- **More Efficient Application of Standards--- *Cost-effective implementation strategies***
- **Better Planning for the Unexpected--- *USQ***

# Potential Opportunities for Improvement

**AB Business Management Practices**

- **Robust & Effective Contractual Clauses--- *Link Performance Expectations, Accountability Mechanisms & Rewards/Incentives***
- **Clear Definition of Institutional Roles and Responsibilities**
- **Strengthened DOE & Contractor Technical Competency & Skill-mix**
- **Coupling of Priorities and Budget Decisions**
- **Adaptation of Other Agency & Commercial Industry Practices**

# Taking ISM to the Next Level

Removing Barriers to Success

## Streamlining DOE AB Process

- **Greater Partnership and Communication among DOE and Contractor players:**
  - ***Regulatory Framework---interpretation, applicability, intent, and flexibility***
  - ***Cost-effectiveness of implementation strategies***

***Model: Build on DOE-STD-1120 & 10 CFR 830 Rule Approach***

# Taking ISM to the Next Level

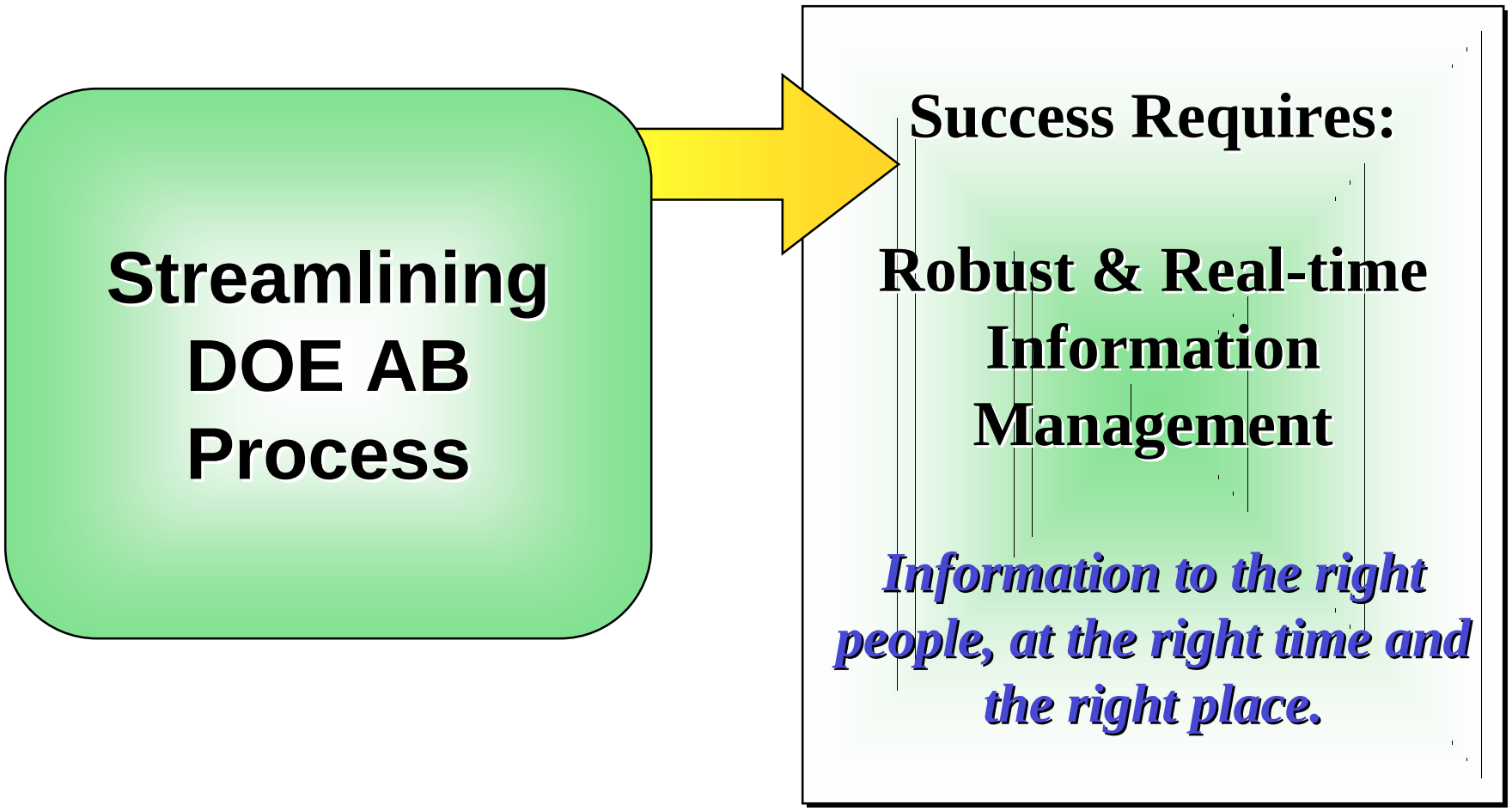
Removing Barriers to Success

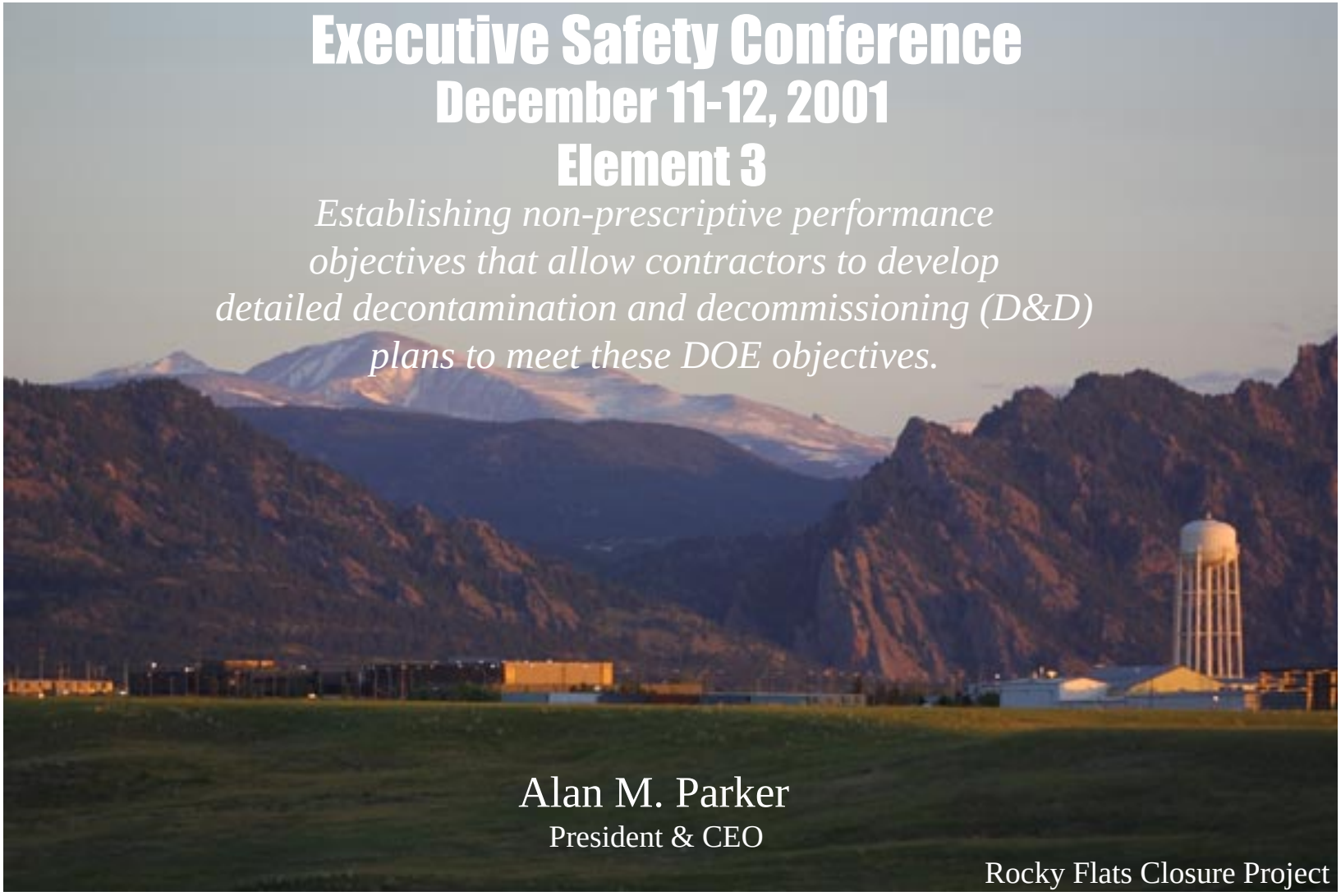
## Streamlining DOE AB Process

- **Strengthen Linkages Between AB Execution, AB Regulatory Framework, and AB Business Management Practices:**
  - ***Expectations and End-Result Performance Objectives***
  - ***"Right Sizing" of Work Controls and Practices***
  - ***Progress Evaluation, Accountability Mechanisms & Rewards & Incentives***

# Taking ISM to the Next Level

Removing Barriers to Success





# Executive Safety Conference
## December 11-12, 2001
## Element 3

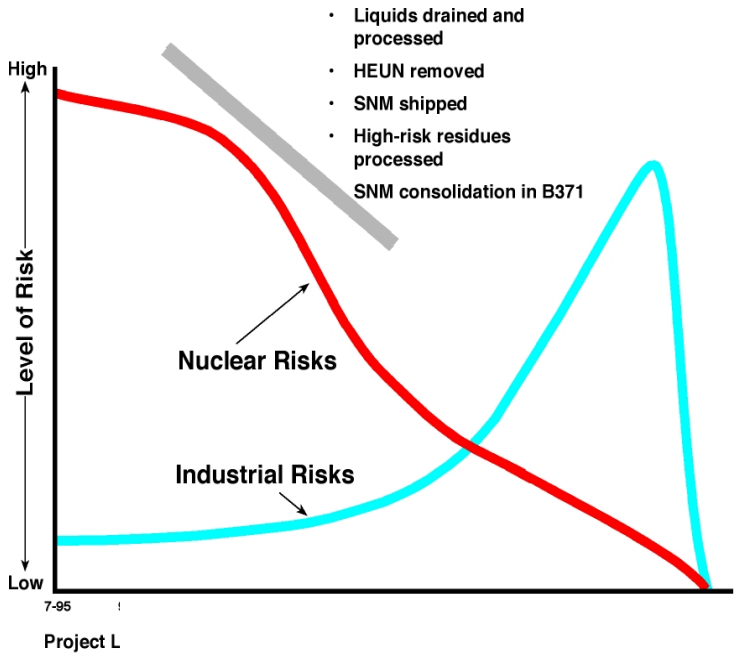
*Establishing non-prescriptive performance objectives that allow contractors to develop detailed decontamination and decommissioning (D&D) plans to meet these DOE objectives.*

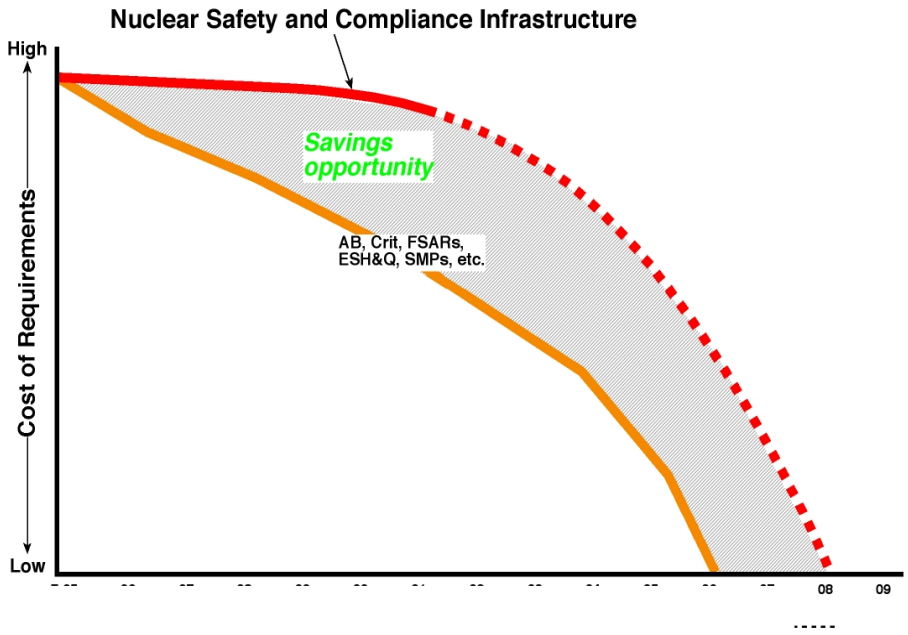
Alan M. Parker
President & CEO
Rocky Flats Closure Project

KAISER•HILL COMPANY

## Establishing Non-Prescriptive Performance Objectives

# Graded Requirements -- A Key To Accelerated Closure




If we can maintain a real time alignment of the requirements with the work, we can meet our 2006 schedule.

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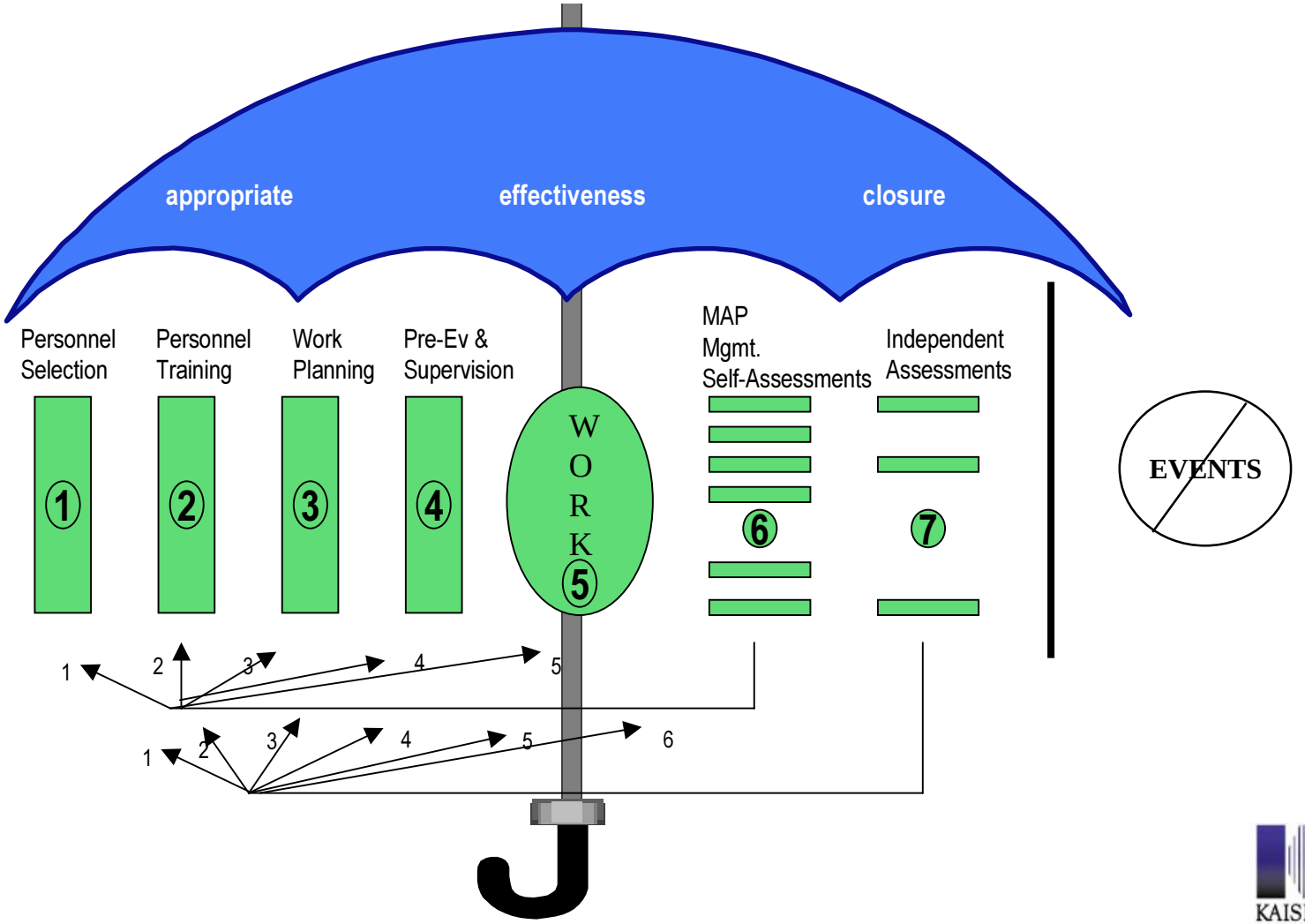
# Establishing Non-Prescriptive Performance Objectives

## Strategy

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Establishing Non-Prescriptive Performance Objectives

# Establishing a New Licensing Approach at DOE Facilities

- Reference to DOE-approved Safety Management Programs
- Definition of approved activities
- Definition of hazard identification and analysis
- Accident Analysis
- Process for derivation of technical safety requirements
- Description of technical safety requirements
- Safety and operating limits
- Administrative controls
- Design features

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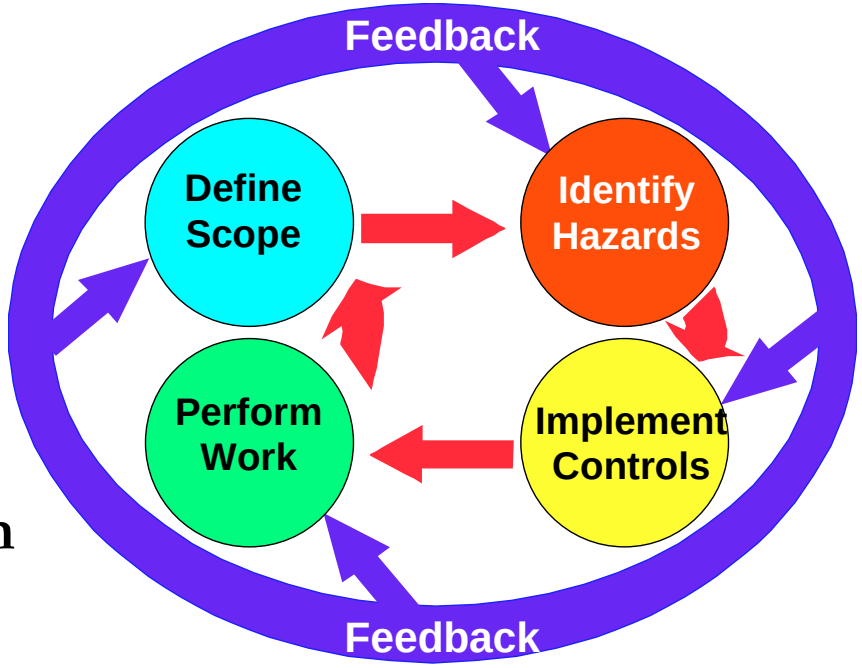
Establishing Non-Prescriptive Performance Objectives

# Assuring Contractor Commitments & Integration of DOE Requirements

- Use of Federal law
  - OSHA
  - 10CFR835
  - 10CFR830.120
- Contract requirements
  - Direct order incorporation
  - Penalty clauses
  - Performance-based safety incentives
- Price Anderson

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Establishing Non-Prescriptive Performance Objectives

# Assuring Contractor Commitments & Integration of DOE Requirements

- Authorization Basis documents
  - Commitment and compliance with Safety Management Programs
  - Other Authorization Basis requirements
  - Minimum operational control features
- Authorization agreements
  - Integration of contract and AB requirements
  - Safety performance objectives
- Philosophical alignment

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Establishing Non-Prescriptive Performance Objectives

# Typical Performance Objectives

- Contract language
- Contract definition
  - Category 1, 2, and 3 events
  - Use of Comprehensive Expectations in Category 3
  - 12 month TRCR exceeding 3.5
  - 12 month LWCR exceeding 2.0
  - 15 serious TSR violations in a one-year time period
  - 8 serious fire impairments over 30 days in one month
  - Skin contamination events
  - Offsite releases
  - Others tailored to work

Packaging LECO crucibles

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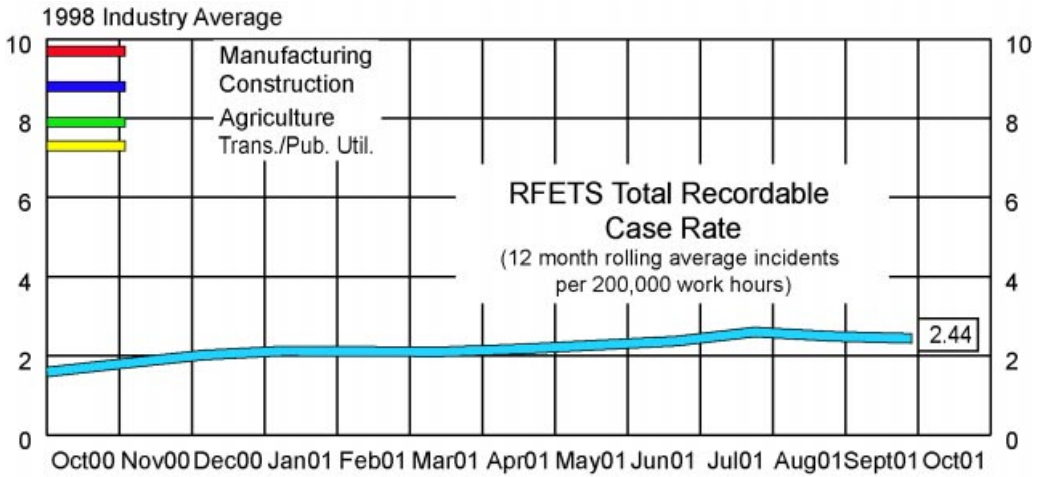
## Establishing Non-Prescriptive Performance Objectives

# Typical Performance Objectives (cont.)

- Statistical-based upper and lower control limits
- Authorization Basis
  - Minimum necessary controls
  - Controls based on function
  - Step-out criteria

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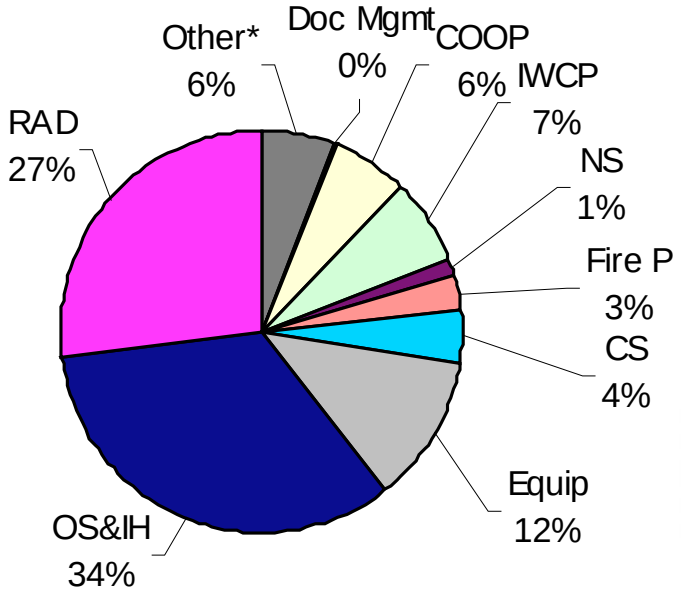
## Establishing Non-Prescriptive Performance Objectives

# Typical Performance Objectives (cont.)

- **Self-assessment reporting**
  - **Continuous improvement through tracking and trending**
  - **Safety Management Program implementation**
- **Independent reporting**

Total Events = 526

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## Establishing Non-Prescriptive Performance Objectives

# Timely Review and Approvals

- Clear communication on expectations
- Conflict resolution through partnering
- Joint expectation development
- Interim reviews
- Use of development schedules
- Review progress at senior management levels

Removing risk is safety

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# Element 4

# *Achieving and Maintaining a Standards-Based Safety System*

*DOE Executive Safety Conference*

*December 11, 2001*

**C. Bruce Tarter**

**Director**

**Lawrence Livermore National Laboratory**

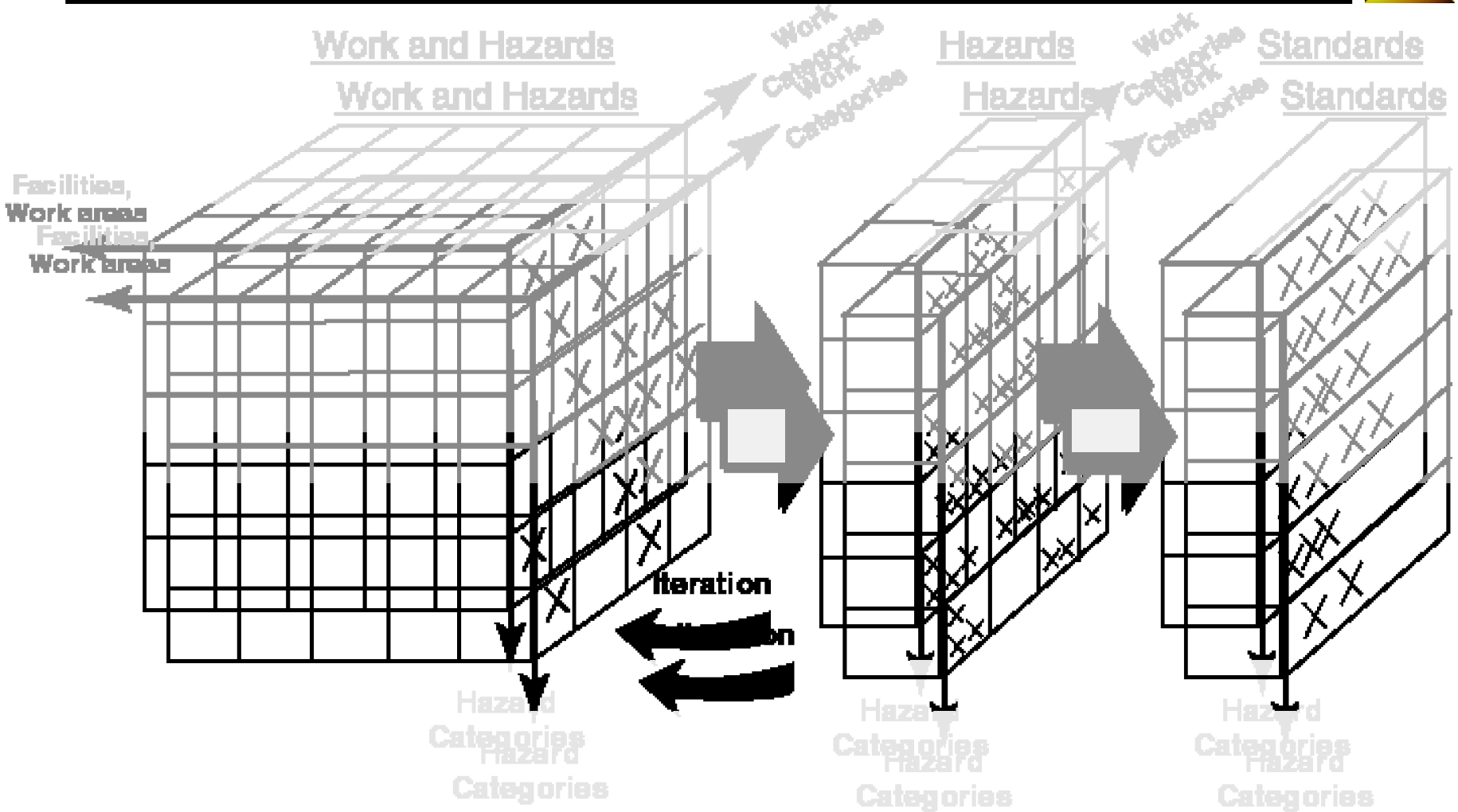
# Confirmation of our Work Smart Standards (WSS) in March 1999 was a key step in implementing LLNL's ISM system

- ISM is a standards-based system for managing ES&H
- The WSS process allowed LLNL and NNSA/OAK to select the "right" set of ES&H standards
  - based on hazards of our work
  - involved those doing the work as well as ES&H experts
  - buy-in of our employees
- Provides added stability to the standards to which we are expected to adhere
  - formal process for managing changes
- The WSS set is a key component of a viable ISM system
  - provides a credible set of hazard control "standards" in the ISM work cycle
  - the on-going WSS process helps ensure appropriate safety standards in a rapidly changing R&D work environment

# WSS at LLNL was done in active partnership with DOE and UC

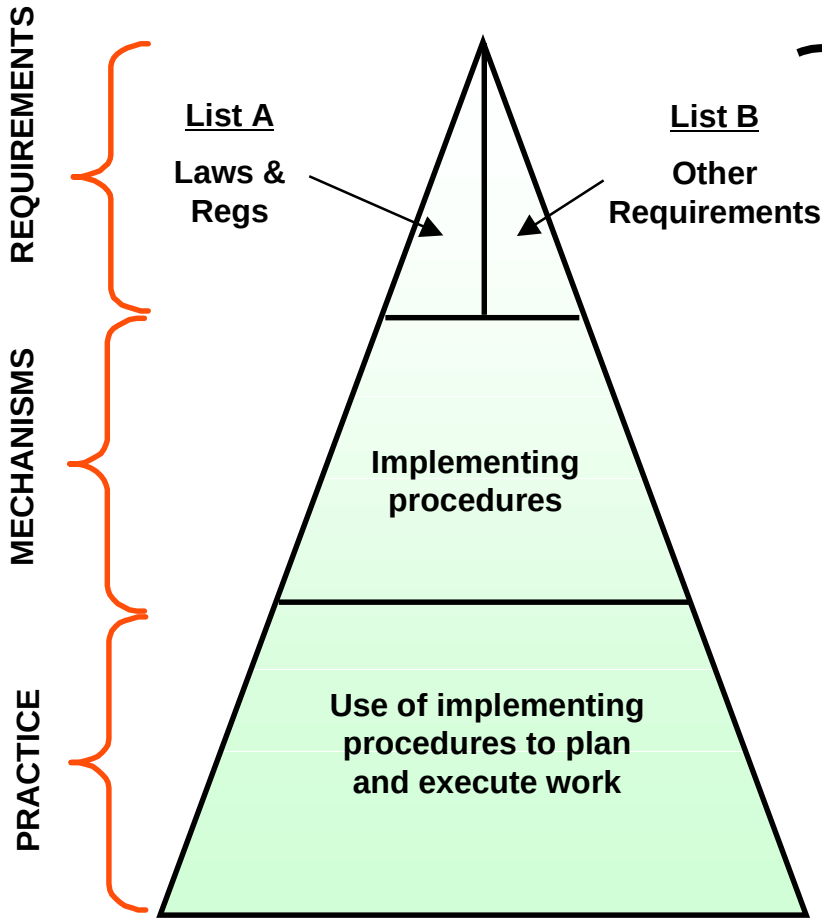
- OAK Manager (Jim Turner, now Camille Yuan-Soo Hoo) and I are committed to WSS as a part of ISM
  - has allowed us to jointly tailor ES&H Standards to our site
- Jointly developing WSS at LLNL has demonstrated the effective partnership of DOE/NNSA, UC and LLNL
  - delegated day-to-day oversight to senior managers
  - frequent working meetings occurred to move process forward and solve problems
  - Issues Resolution Process invoked only once
- LLNL and DOE/OAK WSS Convened Group co-leads were senior-line managers
- Lessons Learned from LANL, LBNL and others were recognized and used to improve our process
- The DNFSB was an involved stakeholder

# Facility personnel identified the work and hazards in a representative set of facilities...

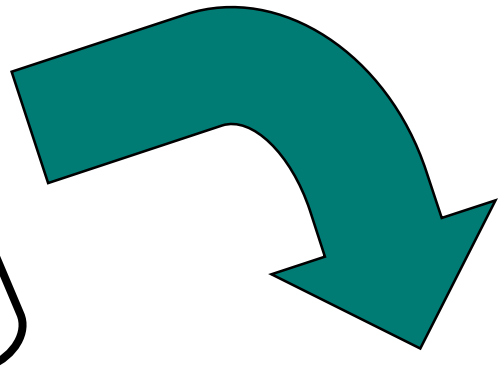



…then appropriate standards were selected for the various hazard categories and rolled up across all facilities

# Following confirmation, the WSS set was implemented through revised manuals and strengthened implementing procedures




Ideal ISM Model



Revised ES&H Manual

| I | II | III | IV | V | VI |
|---|---|---|---|---|---|
| ES&H Management | Health & Safety - Hazards Control | Environment - Hazards Control | Institutional ES&H Documents | Nuclear Facility Requirements | Nevada Requirements |

# Our ES&H Home page provides links to the updated 6-volume ES&H manual as well as the WSS set

Lawrence Livermore National Laboratory

## Environment, Safety, and Health

- Integrated Safety Management
- ES&H Manual
- Organizations
- Crosswalk—Legacy Documents
- Lessons Learned
- Resources
- Training
- Work Smart Standards
- Search


**The new ES&H Manual is now available and replaces the Health & Safety Manual, Environmental Compliance Manual, and other implementing documents.**

**See the Crosswalk--Legacy Documents to the ES&H Manual for further information.**

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# WSS are an integral and essential part of our Integrated Safety Management System

- WSS are identified in the DOE/UC Contract and described in our ISM System Description document
- WSS flow to our ES&H Manual as LLNL requirements for working safely
- We developed nine local WSS Standards to address gaps identified by Standards Identification Teams
  - these include: HEPA Filters, Ergonomics, Pressure Safety, and Configuration Management
  - several of these standards have been used by other organizations to address similar issues
- Activities are in place to maintain a viable set of WSS
  - subject matter experts assigned
  - change control process active
- WSS process results in a standards-based system with expert field interpretation by ES&H support teams

# Path forward

- Continue the transition to a standards based ES&H management system
- Reinforce the concept of WSS through strong management support of the process for new and revised requirements
- Involve the Laboratories and other contractor personnel in the development of new requirements
- Adopt industry consensus standards in lieu of developing new DOE orders wherever possible

# Executive Safety Conference
# Session 2

## Element 5

Kathy Carlson, Manager
NNSA/NV

***Maintaining Federal and contractor technical capabilities.***

# Recruiting/Retaining Federal Staff

***Current environment:***

- **Reduced Mission/ Budgets/ Staffing Levels**
- **Adverse Media Coverage regarding nuclear mission**
- **Unclear Lines of Responsibility**

***What is needed:***

- **Senior Management Commitment to Define Roles and Responsibilities**
- **Retention Flexibilities -** Retention Allowances, Awards, Training, Mentoring, etc.
- **Recruitment Flexibilities -** Excepted Service Appointments, Recruitment and Relocation Bonuses, Dual Compensation Waivers, Direct Hire Authority, Intern Programs

# Recruiting/Retaining Contractor Staff

***Current environment:***

- **New Work Culture of Generation X**
- **Availability of Candidates/Salary Competition**
- **Expert Based Culture**

***What is needed:***

- **Planning for New Culture** – experience and personal marketability vs. loyalty and stability
- **Pay Flexibilities**
- **Term Contracts with progressive incentives**

# Subcontractor Worker Qualification

*Current environment:*

- **Lack of Clear, Tailored Federal/M&O Expectations Articulated in Subcontracts**
- **Oversight depth and frequency Not Inline With Expectations**
- **Performance Incentives/Penalties Use Needs Improvement**

*What is needed:*

- **Federal/Contractor Partnering to define "necessary and sufficient" expectations**
- **Align Oversight, Performance Incentives/Penalties with New Expectations**

# Path Forward

## Federal

- **Use of Pre-retirement Mentors as a part of Succession Planning**
- **Reinforce Use of Critical Technical Capability Staffing Plans**
- **Recruit and Rehire Federal Annuitants**
- **Clearer expectations to the M&O in the application of Federal requirements to subcontractors**

# Path Forward

## Contractors

- **Enhanced succession planning in the core areas**
- **Term employment contracts with progressive retention bonuses**
- **Continue Shift from Expert Based to Standards based**
- **Use incentives/penalties for performance**
- **Clearer articulation of expectations in sub-contractor contracts and subsequent validation of performance**
- **Reinforce Use of Critical Technical Capability Staffing Plans**

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# Wrap-up